

WHAT IS CLAIMED IS:

1. A solid-state image pickup apparatus for converting light incident from an object field to an electric picked-up signal and processing the electric picked-up signal to produce an image signal, comprising:

a solid-state image sensor comprising an array of photosensitive cells bidimensionally arranged and converting the light to signal charges in accordance with an optical sensitivity, vertical transfer paths for vertically transferring the signal charges read out from said array of photosensitive cells, and a horizontal transfer path extending perpendicularly to said vertical transfer paths and responsive to a horizontal transfer signal for transferring the signal charges received from the vertical transfer paths in a horizontal direction to thereby output the signal charges as the picked-up signal;

a selecting circuit for selecting one of a plurality of optical sensitivities which are different from each other;

a system controller for generating a control signal in accordance with the sensitivity selected; and

a timing generator for generating a timing signal for transferring the signal charges for said solid-state image sensor in accordance with the control signal;

said timing generator lowering, in accordance with the sensitivity selected, a frequency of the horizontal transfer signal below a usual frequency for use in transferring the signal charges in the horizontal direction.

2. The apparatus in accordance with claim 1, wherein, when higher one of the sensitivities is selected, said timing generator lowers the frequency of the horizontal transfer signal below the usual frequency.

3. The apparatus in accordance with claim 1, further

comprising a drive converting circuit for converting the timing signal to a voltage matching with drive of the horizontal transfer path which is provided with the timing signal, said drive converting circuit raising, when higher one of the sensitivities is selected, a voltage for driving in the horizontal direction.

4. The apparatus in accordance with claim 2, further comprising a drive converting circuit for converting the timing signal to a voltage matching with drive of the horizontal transfer path which is provided with the timing signal, said drive converting circuit raising, when the higher sensitivity is selected, a voltage for driving in the horizontal direction.

5. The apparatus in accordance with claim 1, further comprising a gain control circuit for measuring a white balance of each of a plurality of blocks forming an image of the object field represented by the picked-up signal, and controlling a gain of each block color by color in accordance with the white balance measured;

said system controller producing in each color a cumulative value of pixels included in each of the plurality of blocks, multiplying the cumulative value by the gain in each color to thereby generate a subject value, comparing, when the cumulative value is substantially equal to a reciprocal of the gain, the subject value with a predetermined threshold to thereby determine a scene of the image, and generating the control signal associated with the timing signal in accordance with a result of determination.

6. The apparatus in accordance with claim 2, further comprising a gain control circuit for measuring a white balance of each of a plurality of blocks forming an image of the object field represented by the picked-up signal, and controlling a

gain of each block color by color in accordance with the white balance measured;

said system controller producing in each color a cumulative value of pixels included in each of the plurality of blocks, multiplying the cumulative value by the gain in each color to thereby generate a subject value, comparing, when the cumulative value is substantially equal to a reciprocal of the gain, the subject value with a predetermined threshold to thereby determine a scene of the image, and generating the control signal associated with the timing signal in accordance with a result of determination.

7. The apparatus in accordance with claim 3, further comprising a gain control circuit for measuring a white balance of each of a plurality of blocks forming an image of the object field represented by the picked-up signal, and controlling a gain of each block color by color in accordance with the white balance measured;

said system controller producing in each color a cumulative value of pixels included in each of the plurality of blocks, multiplying the cumulative value by the gain in each color to thereby generate a subject value, comparing, when the cumulative value is substantially equal to a reciprocal of the gain, the subject value with a predetermined threshold to thereby determine a scene of the image, and generating the control signal associated with the timing signal in accordance with a result of determination.

8. The apparatus in accordance with claim 5, wherein said system controller generates, when the result of the determination shows that a color shift is conspicuous in the scene, a control signal for lowering the frequency of the timing signal.

9. The apparatus in accordance with claim 6, wherein said system controller generates, when the result of the determination shows that a color shift is conspicuous in the scene, a control signal for lowering the frequency of the timing signal.

10. The apparatus in accordance with claim 7, wherein said system controller generates, when the result of the determination shows that a color shift is conspicuous in the scene, a control signal for lowering the frequency of the timing signal.

11. The apparatus in accordance with claim 5, wherein said system controller generates, when the result of the determination shows that a color shift is conspicuous in the scene, a control signal for raising an output voltage of said drive converting circuit.

12. The apparatus in accordance with claim 6, wherein said system controller generates, when the result of the determination shows that a color shift is conspicuous in the scene, a control signal for raising an output voltage of said drive converting circuit.

13. The apparatus in accordance with claim 7, wherein said system controller generates, when the result of the determination shows that a color shift is conspicuous in the scene, a control signal for raising an output voltage of said drive converting circuit.